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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/176,580	10/21/1998	RAMESH SUNDARAM	S01.12-0460	2038
7590 07/28/2004				
PETER S DARDI WESTMAN CHAMPLIN & KELLY SUITE 1600 INTERNATIONAL CENTRE 900 SECOND AVENUE SOUTH MINNEAPOLIS, MN 554023319		EXAMINER VERBITSKY, GAIL KAPLAN		
		ART UNIT 2859		PAPER NUMBER

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

CA

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/176,580	SUNDARAM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Gail Verbitsky	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2,4-7,9-14,16,18,20,21 and 23-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18,21 is/are allowed.
- 6) ☒ Claim(s) 2,4-6,10,11,14,16,20 and 23-29 is/are rejected.
- 7) ☒ Claim(s) 7,9 and 12-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 20 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### CLAIM REJECTIONS- 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -  
(e) the invention was described in-  
(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or  
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 2, 4-6, 10-11, 14, 16, 20, 23, 25-26, 28-29 are finally rejected under 35 U.S.C. 102(e) as being anticipated by Boutaghou et al. (U.S. 5808184) [hereinafter Boutaghou].

Boutaghou discloses in Figs. 1-4 and 13 a device/ glide test system having a thermal asperity sensor comprising a slider body 12 having a leading edge A, a trailing edge, a contoured (having rails) relative to a recess surface, a disc facing surface C. The surface C has a raised bearing surface D (26) elevated from a recessed bearing surface E. The device also has transducers (plurality of magnetoresistive sensors/ MR) 18 spaced apart along the length of rails (elevated/ raised bearing surface) 26 of an air-bearing surface 14 ABS (col. 6, lines 6-7, entire col. 3 and Fig. 1). Each transducer has at least three layers, thus, constituting a thin (having thickness/ height/ profile) and flat (col. 7, line 20)

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asperity-contacting surface (length) oriented along the ABS. As shown in Fig. 1, the transducers are oriented along (portion extending) the ABS. Inherently, the thickness of the transducer is forming a contour profile of the contoured disc-facing surface and is intersecting (contacting) with its portion extending along the ABS.

For claim 10: the transducers extend substantially from the leading edge to the trailing edge, as shown in Fig. 4.

For claim 14: Boutaghou states that the transducer can be a PZT (col. 2, line 14),

For claim 24: Boutaghou teaches that the transducers have at least three thin layers/ films. This would imply that the most outer layer serves as a protective layer.

For claim 26: Boutaghou states that the transducers are fabricated on the ABS at the wafer level (col. 3, line 22), i.e., prior to slicing.

For claim 25: the thermal asperity detection means (thermal transducers (located on the ABS of the glide body detect asperity on a disc surface/ surface of interest.

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For claim 29: The fact that the transducers are deposited onto the ABS (col. 6, lines 6-7) would imply that the ABS must be fabricated prior to depositing the thermal transducers onto it and thus, onto the raised bearing surface of the ABS. (The numerals A- F have been added by the Examiner, see **attachment to the previous Office Action**).

The method steps will be met during the normal manufacturing process of the device stated above.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 27 is finally rejected under 35 U.S.C. 102(e) as being anticipated by Franco et al. (U.S. 6262572) [hereinafter Franco]

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

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Franco discloses in Figs. 6-7 a device in the field of applicant's endeavor comprising a body portion (slider) including a leading edge, a trailing edge, a raised air bearing surface including a rail 98, at least one thermal asperity transducer 96 deposited onto a trailing edge of the rail 98 of the ABS of the slider (col. 12, lines 45-67 and entire cols. 13-14), the transducers have terminations (pads) connected to wires (conductive strips) 97 positioned on the trailing edge of the rail (raised surface) of the ABS, as shown in Figs. 6-7, the strips are connecting the at least one thermal transducer to an electronic circuitry.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

### ***Response to Arguments***

6. Applicant's arguments filed on May 20, 2004 have been fully considered but they are not persuasive.

Applicant states that Boutaghou does not teach fabrication of the sensors and the ABS at the wafer level. This argument is not persuasive because, A) the limitation the applicant relies on (fabrication of the ABS at the

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wafer level) is not stated in claims 2, 4-7, 9-14, 16, 20, 23-24, 27-29. It is the claims that define the claimed invention, and it is claims, not specification that are anticipated or unpatentable. Constant v. Advanced Micro-Devices, Inc., 7 USPQ2d 1064. B) Applicant in page 13 of the present amendment, states

“Boutaghou discloses fabrication of MR sensor at the wafer level...”

With respect to claims 16, 20, 26, 29: Applicant admits that Boutaghou discloses fabrication of sensors at the wafer level (page 13 of the present amendment). Applicant states that Boutaghou does not expressly teach to fabricate sensors on a raised ABS at the wafer level. This argument is not persuasive, because if A) (as admitted by applicant), the sensor is deposited at the wafer level, and B) as stated by Bougtahou (col. 6, lines 6-7) the sensor is deposited on the ABS, thus, one skilled in the art will conclude that both the sensor and the ABS are done at the wafer level and so as to allow the operator to deposit the sensor onto the ABS. Also, one skilled in the art will conclude that the ABS is deposited first and the transducer is deposited onto already deposited ABS.

Applicant states that the fact that Boutaghou teaches sensors along the rails does not establish that Boutaghou teaches sensors on the ABS. This argument is not persuasive because, Boutaghou clearly teaches that the sensors are deposited onto the ABS (col. 6, lines 6-7).

With respect to claim 27: applicant states that claim 27 recites that the thermal transducer formed on the raised ABS, not the trailing surface or edge. This argument is not persuasive because, the raised ABS of Franco comprises a

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trailing surface where the transducer is positioned. Applicant does not rule out that the transducer can be positioned on the trailing surface of the raised ABS.

***Allowable Subject Matter***

7. Claims 18, 21 are allowed. Claims 7, 9, 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related devices and methods.



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Any inquiry concerning this communication should be directed to the Examiner Verbitsky who can be reached at (571) 272-2253 Monday through Friday 8:00 to 4:00 ET.

GKV

Gail Verbitsky

Primary Patent Examiner, TC 2800

A handwritten signature in black ink, appearing to read 'G. Verbitsky', written in a cursive style.

July 26, 2004